



Toutle silt trap takes shape



SEPTEMBER 14, 2010 11:45 PM • BY ANDRE STEPANKOWSKY / THE DAILY NEWS

From a distance, the Toutle River flood plain looks like it's been strewn with wooden boxes and pierced by thousands of toothpicks.

What it is, though, is the nearly completed U.S. Army Corps of Engineers pilot project to test a low-cost way to stem the flow of volcanic debris into the Cowlitz River.

Woodland-based LKE Corp. has nearly completed a series of weirs that will slow the current of the Toutle's north fork and force it to deposit some of the tons of silt it carries downstream from the volcano each winter.

Construction started in July, went nearly without a major hitch and will wrap up later this month, about two weeks later than planned and about \$100,000 over the original contract amount of \$3.5 million, said Tim Kuhn, the corps' Cowlitz-Toutle project coordinator in Portland. The last of the work involves creating two long, tube-like barriers with a synthetic material to channel the river toward the weirs.

LKE drove about 1,000 pilings into the river to create two types of structures:

- Fourteen so-called "island creating structures," which are horseshoe-shaped weirs that will create eddies expected to cause sediment to accumulate on their downstream sides, just like islands form in rivers below a log jam.
- A long "cross valley structure" made of piles and joined together by heavy planks. It will steer the river through a labyrinth of turns, or baffles, to slow the current.

If the concept works this winter, it could be expanded into a major feature of the corps' long-term strategy to control the flow of sediment into the Cowlitz. Under that scenario, dozens more of the weir structures would be built across the Toutle valley floor, Kuhn said.

"It is pretty impressive. I think people are pretty excited to see how things work. Now we are getting into the monitoring phase," Kuhn said.

Core officials say the pilot project is testing whether the structures can help trap more silt behind the 125-foot sediment retaining dam. The dam, located a mile downstream of the pilot project, has trapped 100 million cubic yards - a stack 9 miles high on a football field - but has capacity to trap more than twice that over the next several decades. The agency is hoping the weir structures make that happen more quickly, so less volcanic debris

escapes into the Cowlitz River, where it can clog the channels and increase flooding odds.

The weir structures are far less costly than other alternatives, such as raising the dam, and pose fewer fish passage problems, according to the corps.